

## Features

- ◆ Bi-directional crowbar transient voltage protection
- ◆ High surge capability
- ◆ High off-state impedance
- ◆ Low leakage current
- ◆ Low on-state voltage
- ◆ Short-circuit failure mode



DO-214AA(SMB)

## Main Application

Jinkaisheng's thyristor surge protector devices are designed to help protect sensitive telecommunication equipment from the hazards caused by lightning ,power contact,and power induction. These devices enable equipment to comply with various regulatory requirements including GR 1089,ITU K.20,K.21and K.45,IEC 60950,UL 60950,and TIA-968-A(formerly known as FCC Part 68).

## Typical application including:

- Central office switching equipment. Analog and digital linecards(xDSL,T1/E1,ISDN.....)
- Customer Premises Equipment (CPE) such as phones, fax machines, modems, POS terminals, PBX systems and caller ID adjunct boxes.
- Primary protection modules including Main Distribution Frames(MDF),building entrance equipment and station protection modules.
- Access network equipment such as remote terminals,line repeaters,multiplexers,cross-connects,WAN equipment,Network Interface Devices(NID).
- Data lines and security systems.
- CATV line amplifiers and power inserters.
- Sprinkler systems.

## Electrcal Parameters (Tamb=25°C)

Part Number	VDRM	IDRM	VBO	IBO	VT	IT	Co	IH
	Min.	Max.	Max.	Max.	Max.	Max.	Max.	Min.
	V	uA	V	mA	V	A	pF	mA
P0080SB	6	5	25	800	4	2.2	75	50
P0300SB	25	5	40	800	4	2.2	75	50
P0640SB	58	5	77	800	4	2.2	65	120
P0720SB	65	5	88	800	4	2.2	65	120
P0900SB	75	5	98	800	4	2.2	60	120
P1100SB	90	5	130	800	4	2.2	60	120

Part Number	V <sub>DRM</sub>	I <sub>DRM</sub>	V <sub>BO</sub>	I <sub>BO</sub>	V <sub>T</sub>	I <sub>T</sub>	C <sub>o</sub>	I <sub>H</sub>
	Min.	Max.	Max.	Max.	Max.	Max.	Max.	Min.
	V	uA	V	mA	V	A	pF	mA
P1300SB	120	5	160	800	4	2.2	60	120
P1500SB	140	5	180	800	4	2.2	60	120
P1800SB	170	5	220	800	4	2.2	60	120
P2000SB	180	5	220	800	4	2.2	60	120
P2300SB	190	5	260	800	4	2.2	55	120
P2600SB	220	5	300	800	4	2.2	50	120
P3100SB	275	5	350	800	4	2.2	40	120
P3500SB	320	5	400	800	4	2.2	40	120
P3800SB	360	5	460	800	4	2.2	35	120
P4200SB	400	5	540	800	4	2.2	35	120

### Electrical Characteristics

V <sub>DRM</sub>	Stand-off voltage, is measured at I <sub>DRM</sub>	I <sub>H</sub>	Holding current.
V <sub>BO</sub>	Breakover voltage, is measured at 100V/μs.	I <sub>BO</sub>	Breakover current.
C <sub>O</sub>	Off-state capacitance is measured in V <sub>DC</sub> =2V@1MHz.	I <sub>T</sub>	ON-state current
I <sub>DRM</sub>	Leakage current, is measured at V <sub>DRM</sub> .	V <sub>T</sub>	On-state voltage.

### Part Numbering System

P      XXX      S      B  
(A)      (B)      (C)      (D)

(A) Semiconductor Surge Arrester.

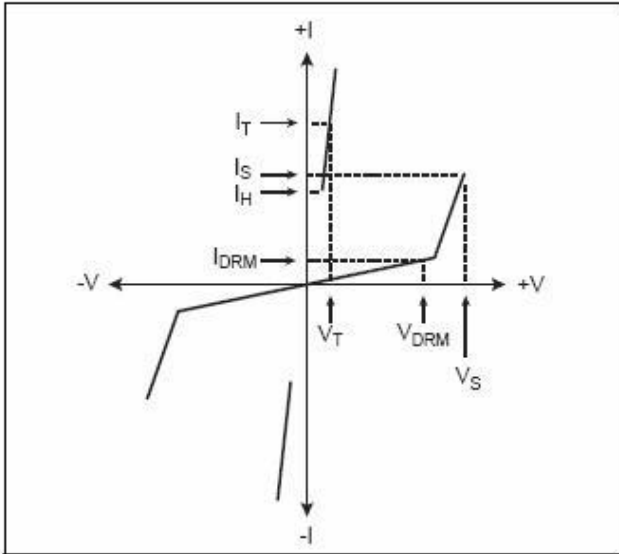
(B) Series: 0060, 0300, 0640.....3500, 3800, 4200 etc.

(C) T: Package: DO-214AA(SMB)

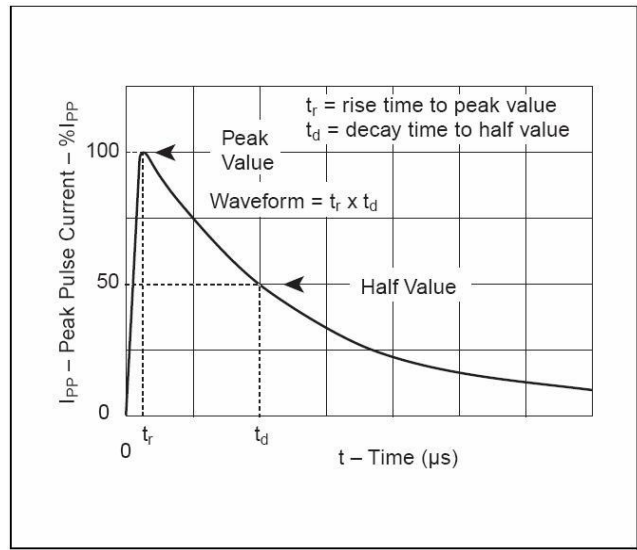
(D) Rating Sure Voltage: B:  $\geq 4KV(10/700\mu s)$

**Electrical Characteristics Curves**

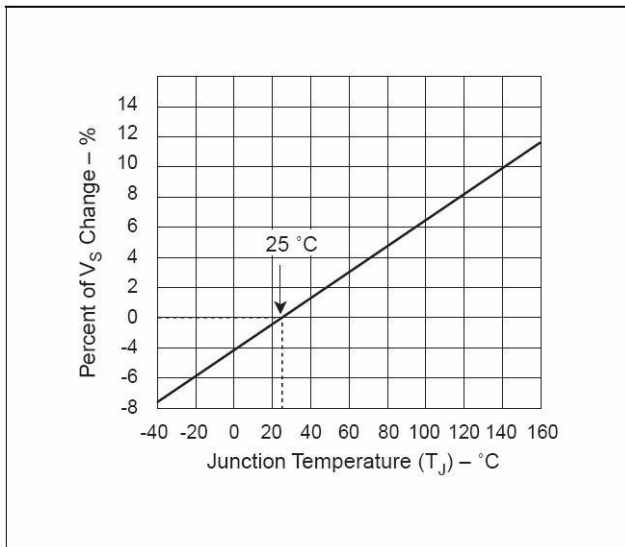
**Figure1 V-I Characteristics**



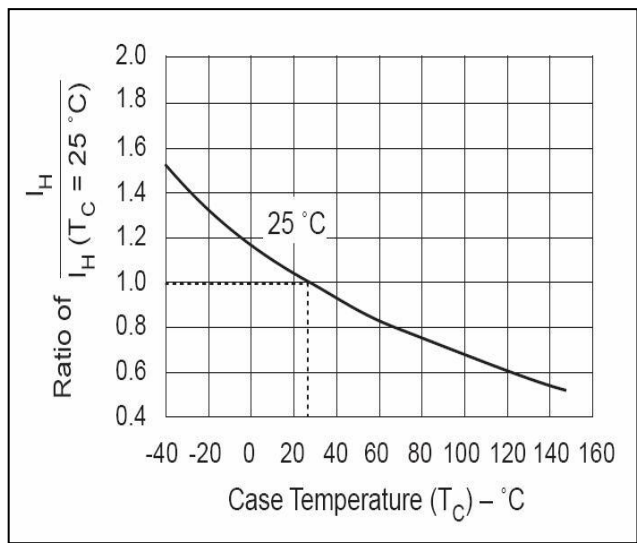
**Figure2  $t_r \times t_d$  Pulse Wave-form**




**Figure 3 Normalized  $V_S$  Change versus Junction Temperature**



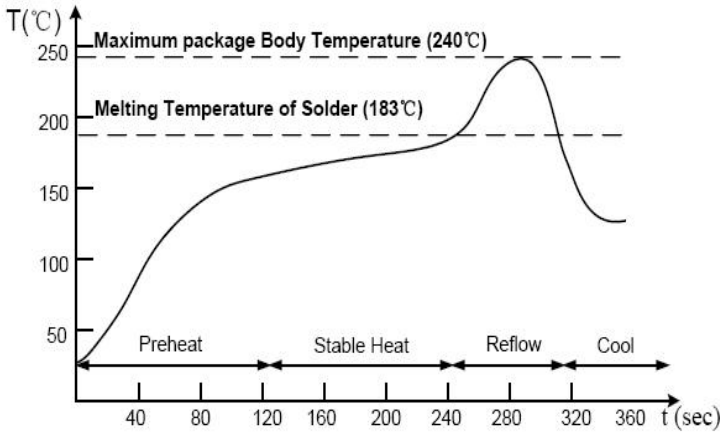
**Figure 4 Normalized DC Holding Current**



**Thermal Considerations**

Package	DO-214AC/SMA	Symbol	Parameter	Value	Unit
	$T_J$	Operating Junction Temperature	-40 to +150	°C	
	$T_S$	Storage Temperature Range	-40 to +150	°C	
	$R_{\theta JA}$	Junction to Ambient on printed circuit	90	°C/W	

**Solder Reflow Recommendations**

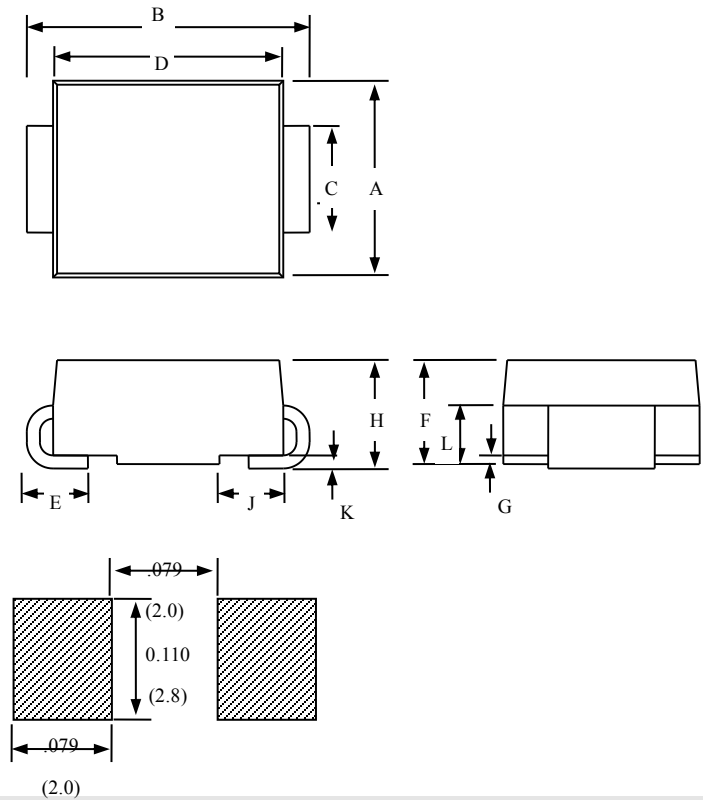


- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.


**Notes:** If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

**Product Dimensions**

Dimension	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.134	0.155	3.40	3.94
B	0.205	0.22	5.21	5.59
C	0.075	0.083	1.90	2.11
D	0.166	0.185	4.22	4.70
E	0.036	0.056	0.91	1.42
F	0.073	0.087	1.85	2.2
G	0.002	0.008	0.05	0.20
H	0.077	0.094	1.95	2.40
J	0.043	0.053	1.09	1.35
K	0.008	0.014	0.20	0.35
L	0.039	0.049	0.99	1.24



**Summary of Packing Options**

Package Type	Description	Packing Quantity	Industry Standard
DO-214AA(SMB) 	Embossed Carrier Reel Pack	3000PCS	EIA-481-D